that of the tibia of Short Cist 1 B 208, 72·3, showing the very definite and greater platycnemia of the Early Iron Age bone.

When the differences between the Early Iron Age skeleton and those of the Short Cist skeletons are reviewed, it is obvious that, although they are slight, so far as measurements and indices are concerned, nevertheless they are numerous and definite both as regards the skull and the limb bones, and are sufficient to indicate two different groups of people, and it does not seem probable that one could have been evolved from the other, though it is possible that intermediate types between the two, merging into each, might be developed by crossings taking place frequently during a considerable period of time.

II.

FOURTEENTH-CENTURY BROOCHES AND OTHER ORNAMENTS IN THE NATIONAL MUSEUM OF ANTIQUITIES OF SCOTLAND.

By J. GRAHAM CALLANDER, F.S.A.Scot., Director of the Museum.

In 1878, a small corroded mass of silver coins about the size of a duck's egg was found in a purse in the wall of an old house in Dumfries. No attempt to separate the coins, which have been preserved in the National Museum, was made until two years ago, when the success of Mr A. J. H. Edwards, the Assistant Keeper of the Museum, in treating the large hoard of coins found in Perth, suggested that an attempt should be made to separate and clean those from Dumfries. This was the more desirable, as a small cross and fragments of a chain were seen embedded in the mass. The treatment was entirely successful, and the hoard was found to contain, in addition to the articles mentioned, a complete brooch, portions of other three, and a small bow handle, all of silver.

The cross (fig. 1, No. 1) is equal armed, with a flat circular disc in the centre and four flat arms narrowing towards the extremities, three of which terminate in a flattened knop of oval shape. At the end of the fourth arm is a loop for suspension, which is imperfect, and immediately below it a prominent projecting collar or flange of rectangular shape with rounded corners. The cross measures $1\frac{3}{4}$ inch in height and $1\frac{5}{16}$ inch in breadth. Engraved on one side of the central disc are the letters A G L A,[1] reading backwards, within a circle formed by a single marginal line, and on the opposite side a band of radiating short lines

[1] This formula is not uncommon and consists of the initial letters, in Latin characters, of a Hebrew inscription meaning "Thou art mighty for ever, O Lord."

within single marginal circles with a dot in the centre. Both sides of the arms bear an engraved ladder-like design of short transverse lines within single longitudinal marginal lines. All these designs are filled with niello. Three of the brooches (fig. 1, Nos. 2–4) are ring brooches made of stout wire, one, measuring 1¼ inch in external diameter, being complete with its pin, and the others represented by half and rather

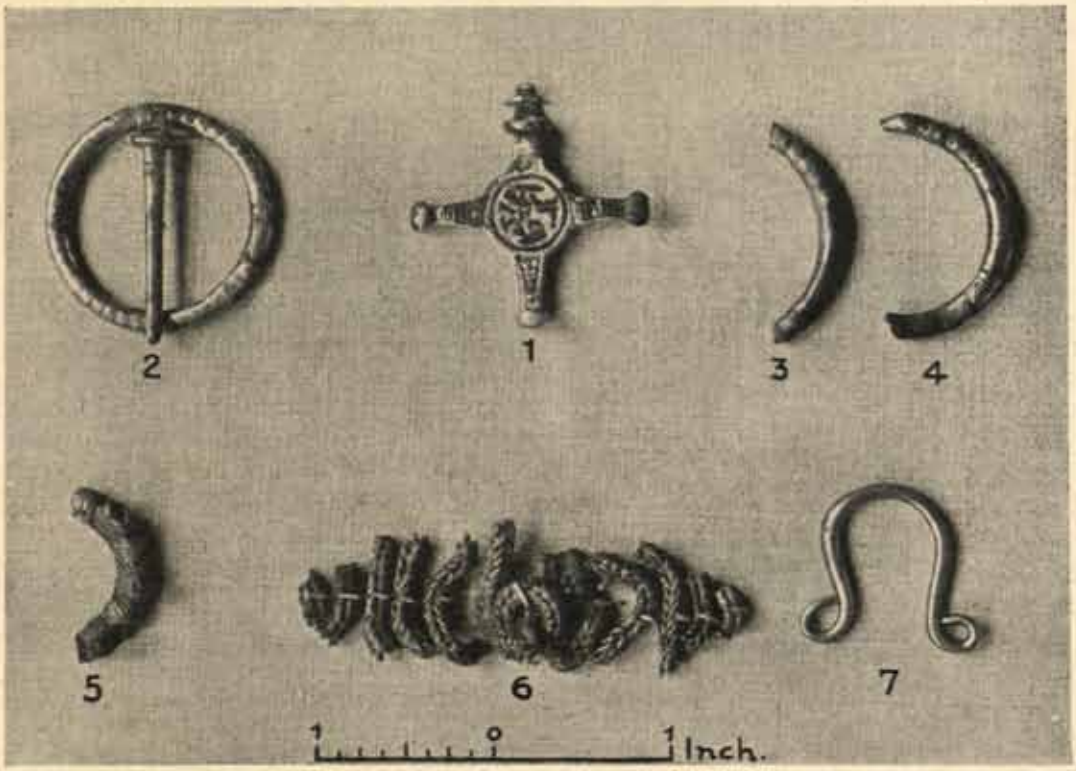

Fig. 1. Silver Ornaments from Dumfries.

less than half of the ring. These three brooches are corrugated transversely, the hollows having been filled with niello, of which traces remain. The pin of the complete brooch is of oval section, and has a loop hinge which has encircled the ring; the half of the loop, however, is broken off. Immediately below it is a prominent projecting round collar or flange, similar to that on the cross below the loop for suspension. The fourth brooch (fig. 1, No. 5) is of a different type. On the front of the ring there have been six collets, separated by a similar number of low hemispherical protuberances, covered with small pellets

like the drupes of a bramble, projecting from it. Each collet has been set with a gem in an oval socket on the summit. Barely half of the brooch has survived, but this part shows that it had been 1 inch in diameter. Three of the mounts remain, and two of them still retain the stone setting. One of these is red, but the colour of the other is indeterminable, owing to the decay of the surface of the stone. The brooch has been gilded. The pin is missing, and also the part of the ring to which it was hinged. The chain (fig. 1, No. 6) is formed of thin plaited wires of the variety known as Trichinopoli work; it is broken into eleven short lengths, one of these being twisted into a knot, the combined length of these fragments being about 10 inches. The last of the articles is a small bow handle of wire (fig. 1, No. 7), which is thickest at the centre of the bow and attenuates towards the ends. The latter converge slightly before they recurve outwards and upwards to form the loops for attachment.

The coins have been submitted to Dr George Macdonald, who has classified them as follows:—

SCOTTISH.

Alexander III.

Five pennies, a half of one, and a quarter of another	7

John Baliol.

One penny, St Andrews Mint . . .	1

ENGLISH.

Edward I.

London	Mint . . .	96 pennies	
Canterbury	„ . . .	46 „	
Durham	„ . . .	17 „	
Bristol	„ . . .	8 „	
Bury St Edmunds	„ . . .	7 „	
Newcastle	„ . . .	4 „	
York	„ . . .	3 „	
Berwick	„ . . .	2 „	
Dublin	„ . . .	2 „	
Exeter	„ . . .	1 „	
Hull	„ . . .	1 „	
Chester	„ . . .	1 „	
Fragments	. . .	15 „	
		—	203

FOREIGN.

Robert de Bethune.

Two Sterlings, Alost Mint	2
	213

Dr Macdonald considers that the hoard was deposited about 1310.

The Dumfries silver cross, in the expanding terminals of its arms and in its central inscribed disc, resembles another talismanic cross formed of jet and found in an adjoining county, which has been brought to my notice by Mr A. O. Curle, who has also supplied me with a photograph of the relic (fig. 2). It was found in a crannog in Loch Rutton, in the Stewartry of Kirkcudbright. The cross is imperfect, and consists of "a circular central disc, ⅝ inch in diameter, with two arms, the other two arms broken off and wanting. The disc is flat on each face and rounded on the edge, and the arms have the corners rounded off and terminate in flat triangular ends with a moulding at the base. When complete, it would measure 1½ inch between the points of the transverse arms. On the face of the cross the disc has been inlaid with a floriated Greek cross and small discs between the outer terminations of the arms. A socket marks one of the arms below the moulding. The reverse is plain except the disc, which bears the letters I H C with a mark of contraction over them. The form of the lettering on the cross and the character of the pottery," which was found with it, "suggest an early thirteenth-century date for the occupation of the crannog."[1]

Fig. 2. Part of Jet Cross from Loch Rutton, Kirkcudbrightshire.

Brooches of Silver and Gold.

In glancing over Scottish archæological collections, one cannot fail to remark the scarcity of personal ornaments which can be ascribed to the long period which elapsed between what may be called prehistoric[2] and comparatively recent times. Ornaments of the Bronze Age, the Early Iron Age, and Viking times are quite numerous, and there is a fair selection dating to the Early Christian period. With the exception of the relics described in this paper, which, without doubt, generally belong to the time of the Scottish Wars of Independence, few trinkets or jewels are to be seen which can be dated earlier than the time of Mary, Queen of Scots, a number of whose jewels have been preserved, chiefly in private hands. The practice of melting down plate and ornaments as fashions

[1] *Trans. Dumfriesshire and Galloway Nat. Hist. Soc.*, vol. xvii. (1901–2), p. 135; *Anc. Mon. Com. Inventory for Stewartry of Kirkcudbright*, p. 177.

[2] Though it may not be quite correct to refer to Viking and Early Christian periods as prehistoric, practically all that we know about the relics of these times found in Scotland has been ascertained by the methods of the prehistorian and not from documentary evidence.

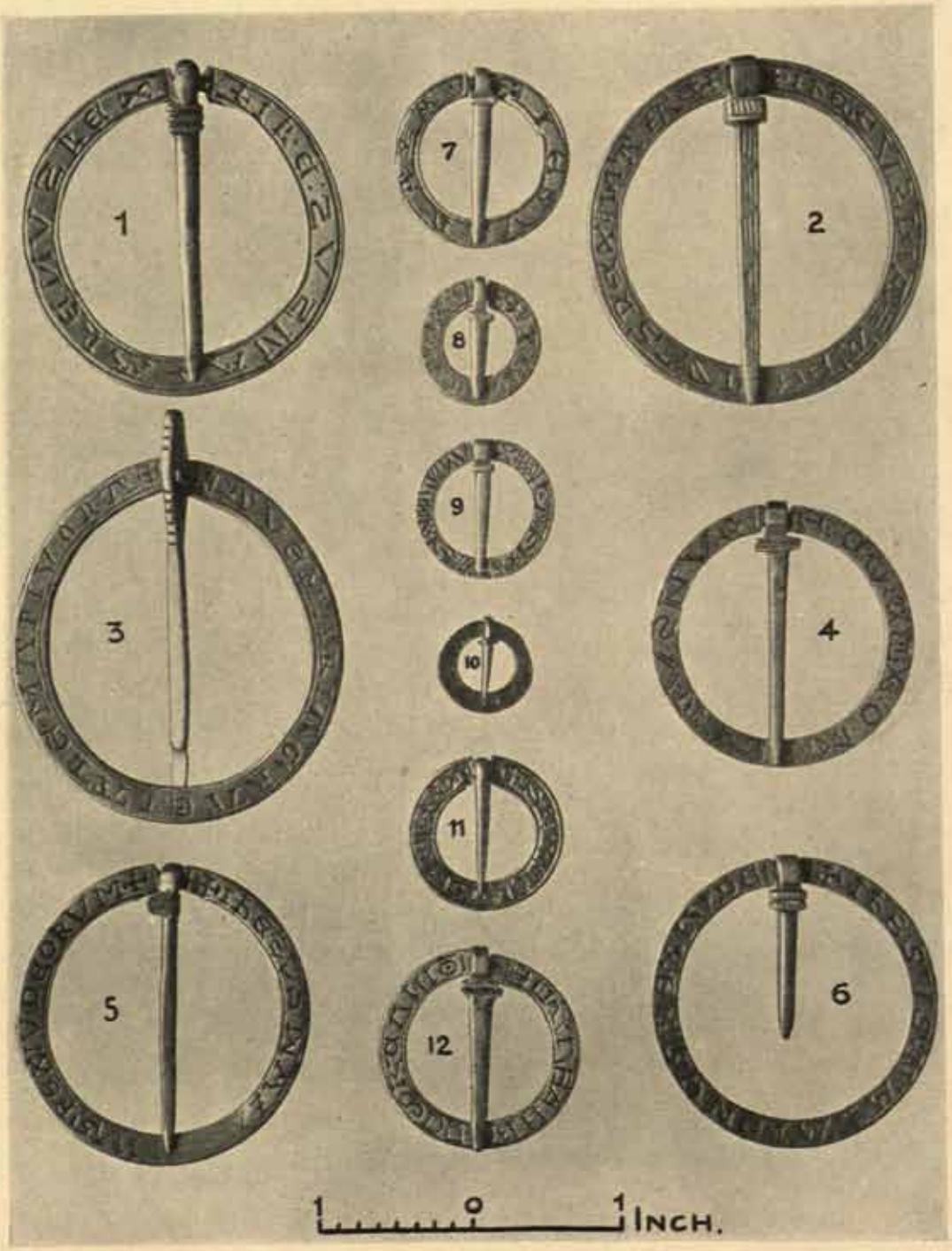

Fig. 3. Talismanic Brooches of Gold, Silver, and Brass.

changed, or to provide funds in times of stress, has continued throughout the ages, and in a country like Scotland, which for centuries was either engaged in a desperate struggle to maintain its independence against a far stronger and wealthier neighbour, or torn with internal troubles, it is not surprising that very few of this class of relics have survived. It is remarkable, however, to find that the greater number of those which have come down to us should belong to the time of Bruce, when the country was in the direst straits.

The relics to be reviewed consist of a good collection of brooches and a few other trinkets, which are preserved in the National Museum, and reference will be made to several other examples of the first-named class of ornaments in other collections.

In considering the brooches, it will be seen that they fall into five distinct types, two of which may be further divided into sub-varieties. Although the types of brooches are quite different, it will be found that certain characteristics are common to more than one. These features are so distinctive, that, even though the brooches had been found singly, instead of different varieties being found in association and with coins of the same date, there would have been no difficulty in assigning them to the same period.

The first and second types bear talismanic or magical formulas. The first variety is a ring brooch with the front flat and the back either flat or rounded, so that the ring is sometimes rectangular and sometimes plano-convex in cross section (fig. 3). On the front of those of rectangular section is an inscription, and on the back either an inscription or ornamentation. On those of plano-convex section the front bears an inscription, while the rounded back is plain. The commonest formula is IESVS NAZARENVS REX IVDEORVM, but it is generally contracted or blundered, and it is sometimes repeated on the back. Other talismanic formulas which occur are one beginning AVE MARIA, others IASPAR, MELCHIOR, ATROPA (the three kings or wise men), the reversible inscription ANSOGANAGOSNA, and AGLA which we have observed on the cross in the hoard from Dumfries. That the engravers of these inscriptions were quite illiterate craftsmen is evident, as it is very seldom that all the words are correctly spelt. Inverted and contorted letters and misspelt and reversed words are of frequent occurrence.

The second type is octagonal in shape, each of the eight sides being flat on one face and ridged on the other, so as to show a triangular cross section: every alternate side is reversed, so that the front and back of the brooch exhibit four rectangular flat panels separated by ridged sections (fig. 4). The flat panels on the front usually bear

variations of the "Jesus of Nazareth" formula, while those on the back have also an inscription or are ornamented. At times the ridged sections are decorated.

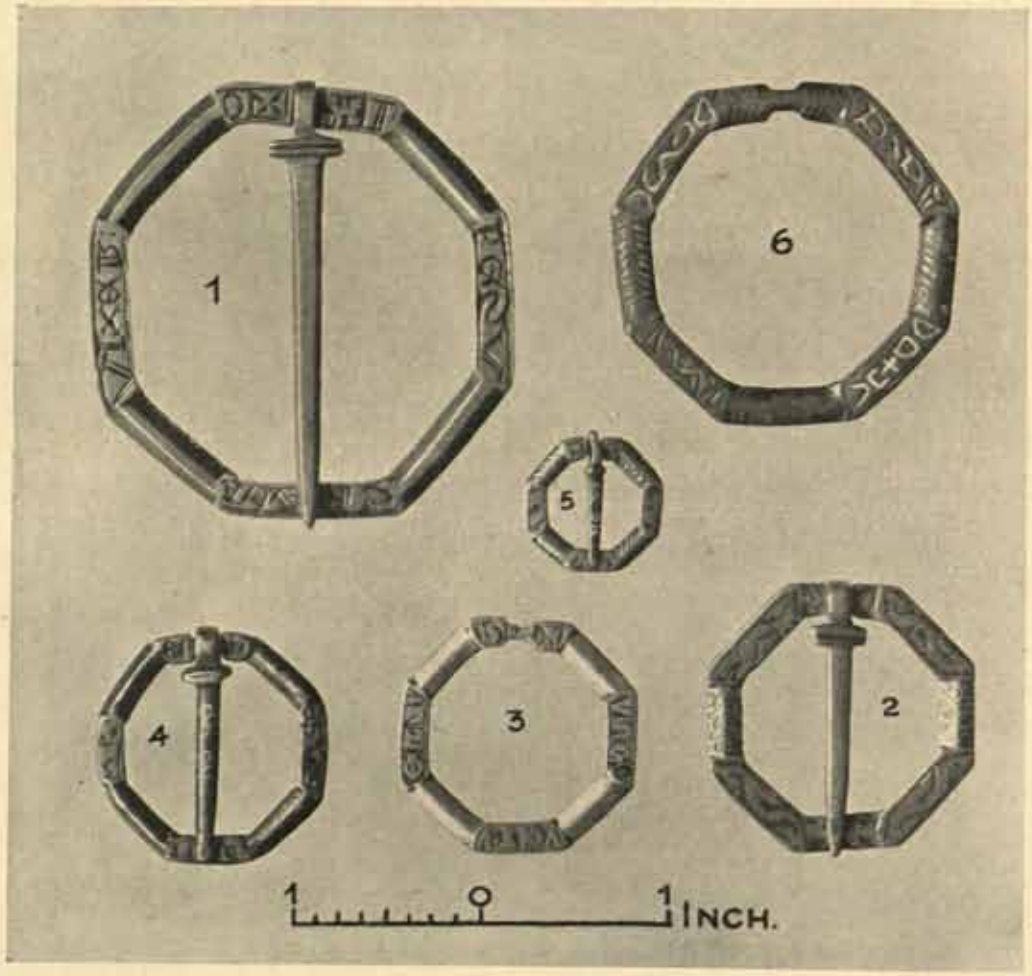

Fig. 4. Talismanic Brooches of Silver.

The third and fourth types (fig. 5) are ring brooches like the first, but are formed of stout wire. The third variety is the more elaborate of the two, and it may be divided into two sub-varieties, one showing four or six rosettes attached at equal intervals to the front of the ring, with a knop or bead encircling it midway between the rosettes (fig. 5, Nos. 1 and 2), and the other with six flat plates in place of

the rosettes and no intervening knops (fig. 5, Nos. 3 and 4). Several of this class show traces of gilding. In the fourth type, which may also be divided into two sub-varieties, there are no attached decorative

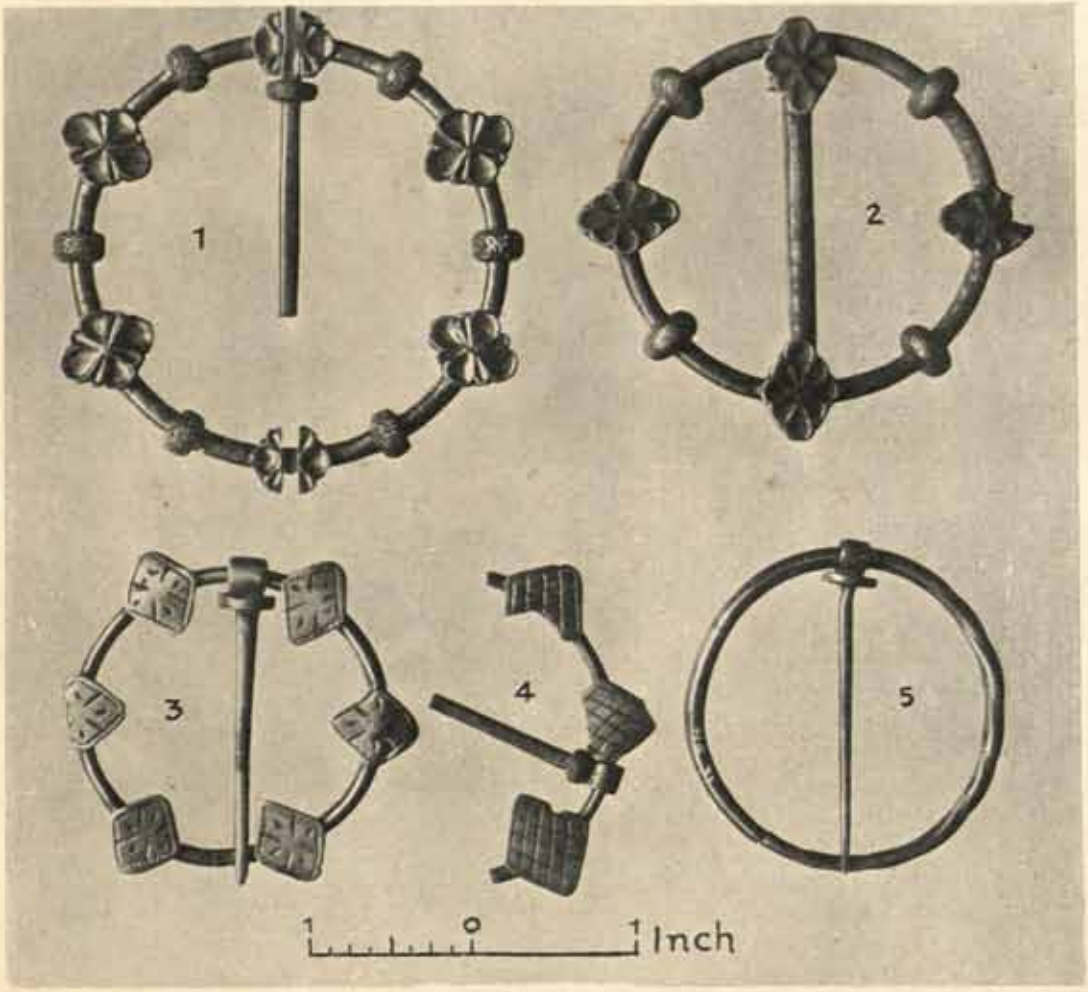

Fig. 5. Silver Brooches.

features; in one sub-variety the wire ring generally exhibits transverse or oblique grooves which have been filled with niello (fig. 1, No. 2), and in the second sub-variety half of the ring is twisted (fig. 5, No. 5). The fifth and last variety is represented in the Museum by a single specimen, the jewelled example from Dumfries previously described. Brooches

like it have been discussed elsewhere under the title of the Norman ferail.[1] It is described on p. 161.

In the National Collection there are thirty-three brooches which belong to one or other of the first four types. Although some of them are fragmentary or want the pin, there is a good selection of complete specimens. In addition to these examples, I have been able to obtain information about seven more in other hands, four of which I have seen.

The brooches in the Museum consist of four (two incomplete) found with two gold finger-rings, fifteen beads of jet (twelve oval, one a flattened spheroid, and two faceted), and fifty-three pennies of Edward I. and II., two of John Baliol, and one of Alexander III., while a field was being ploughed at Woodhead, Canonbie, Dumfriesshire, in 1861; two found with a finger-ring, a pin, part of a sheath-like object, all of silver, and coins of Edward I., II., and III., in a three-legged pot of brass at Langhope, Roxburghshire, in 1882; three found in the ruins of Middlebie Church, Dumfriesshire, in 1851; five (two incomplete) found with Edwardian coins in a garden at Brechin, Forfarshire, in 1891; two found with coins of Alexander III., John Baliol, and the Edwards in an earthenware pot[2] in the old fort at Ayr, in 1862; one found with coins of David II. and Robert II. at Branxholm, Roxburghshire, in 1860; one from a grave in the kirkyard of Athelstaneford, East Lothian; one from Islay, Argyll; one from under the floor of Dunfermline Abbey; one from the Culbin Sands, Morayshire; seven without localities; one from near Norham Castle, Northumberland; one from Hexham, Northumberland; and the three from Dumfries already mentioned. Of the seven brooches outside the National Museum, one is in the Forres Museum and was probably found in the neighbourhood; one of gold from Bute was exhibited by Sir Malcolm Macgregor, Bart., of Macgregor, at the Glasgow Exhibition of 1911;[3] one belonging to Mr Gavin Hamilton, Lesmahagow, was shown at the same exhibition;[4] and of three in the collection of Mr C. E. Whitelaw, F.S.A.Scot., one was found in Perth, one was bought in Aberdeen, and the third in Glasgow. In 1852, Sir Walter C. Trevelyan, Bart., exhibited before the Society a brooch found in the ruins of Eilean Donan Castle, Loch Duich, Inverness-shire. These brooches total forty specimens, two of which were found in the extreme north of England.

In the following list a detailed description of the brooches is given under their different classes. They are all made of silver except Nos. 9, 10, and 13, which are of gold.

[1] *British Arch. Assoc. Journal*, 1862, p. 227.
[2] *Proceedings*, vol. xxvi. p. 60, figs. 1 and 2.
[3] *Glasgow Exhibition* (1911) *Catalogue*, p. 138, No. 30.
[4] *Ibid.*, No. 26.

First Type.

(a) *Flat Ring Brooches, the Ring of Rectangular Section.*

1. Complete with pin (fig. 3, No. 4), found at Brechin with Nos. 14, 17, 25, and 35. It measures $1\frac{23}{32}$ inch in diameter, and bears on the face the formula ⊠ IHESVS NAZAVRIOR, and on the back eight letters as in illustration, followed by IHESVS NVS. Traces of niello are seen in the inscriptions. The pin is of flattened oval section, with a collar projecting prominently on either side and very slightly on the front and back; on the front of the collar is a horizontal medial groove.

2. Complete with pin (fig. 3, No. 2), locality unknown. It measures $2\frac{7}{32}$ inches in diameter. The face bears the formula ✣ IHESVS NAZARENVS REX NAZAE ✣ bordered with single marginal lines, and the back is ornamented with reversed triangles alternately plain and hatched transversely. The pin, which is decorated in front with similar triangles, is of rectangular section, and has a rectangular collar ornamented on front and back with vertical lines between single marginal lines.

3. Complete with pin but slightly compressed (fig. 3, No. 3), locality unknown. It measured originally about $2\frac{1}{4}$ inches in diameter, and bears the formula ✣ IHESVS NAZARENVS REX IUDEORUM A on the front, and ✣ AVE MARIA GRACIA LEMA PIU ORA ✣ on the back. The pin, judging from those on the other brooches, is not the original one, as it thickens at the hinge part, where it is split, the halves having been pressed together after being slipped round the ring. This type of pin is frequently seen on seventeenth-century Highland ring brooches.

4. Ring broken at hinge, but parts complete, with pin (fig. 3, No. 12), found at Ayr with No. 18. It measures $1\frac{7}{16}$ inch in diameter, and on the face bears the blundered formula seen in the illustration. The pin is of rectangular section, and the collar, which projects at the sides, bears a horizontal medial groove on the front.

5. Complete with pin (fig. 3, No. 7), locality unknown. It measures $1\frac{1}{8}$ inch in diameter, and on the face bears the formula X IESVS NAZA between single marginal lines. The pin is of flattened oval section, with the collar projecting slightly in front and at the sides.

6. Complete with pin (fig. 3, No. 8), found at Athelstaneford. It measures $\frac{13}{16}$ inch in diameter, and has the formula X IHESVS NAZARE on the face, the back being decorated with quatrefoils.

7. Imperfect at hinge and pin missing, locality unknown. It

measures $1\frac{1}{16}$ inch in diameter. On the face is inscribed the formula G ✣ A ✣ A ✣ L (AGLA); the outer and inner edges of the back have a twisted cord moulding.

8. Complete with pin (fig. 3, No. 9), found on the Culbin Sands. It measures $\frac{15}{16}$ inch in diameter, and bears on the face the formula IESVS NA. The pin is flattened, and the collar projects slightly to the front and on the sides.

9. Complete with pin (fig. 3, No. 11), found in Islay, and made of gold. It measures 1 inch in diameter, and bears on the one side the formula IESVS NAZARENVS R, and on the other IASPER MELCHITR ATROP. The pin has no collar.

10. Exhibited at Glasgow Exhibition (1911) by Sir Malcolm Macgregor, Bart. This brooch, which is of gold, was found at Kames Castle, Bute; on the front it bears the formulas IESUS NAZARENUS REX IVDEORVM IASPAR MELPCHIOR ATROPA, and on the back are engraved grotesque animals.

11. Preserved in the Forres Museum. It bears on the face the reversible formula ANSOGANAGOSNA. The pin is of oval section, and has a zigzag engraved along the front; the projecting collar is round.

12. Exhibited at Glasgow Exhibition (1911) by Mr Gavin Hamilton, Lesmahagow. It bears the formula ✣ IHESVS NAZARENVS X AVE MARIA OREATE.

13. In the collection of Mr C. E. Whitelaw. This brooch is of gold, and is complete with pin. In cross-section the ring is wedge-shaped. It measures $\frac{5}{8}$ inch in diameter, and bears the formulas AVE MARIA PLENA D ✣ OM INVS TECVM, the first portion, as far as and including the letter D, being on the front, and the latter part on the back. The pin has no collar. It was bought in Glasgow.

(b) *Flat Ring Brooch of Plano-Convex Section.*

14. Complete with pin (fig. 3, No. 5), found at Brechin with Nos. 1, 17, 25, and 35. It measures $1\frac{1}{16}$ inch in diameter, and bears on the face the formula ✣ IHESVS NAZARENVS REX IVDEORVM ✣. The pin is of flattened oval section, and retains part of a heavy projecting oval collar. The letters AREN of the inscription have been obliterated by the friction of the point of the pin.

15. Complete with pin (fig. 3, No. 6), found at Middlebie Church with Nos. 29 and 40. It measures $1\frac{7}{8}$ inch in diameter, and bears the formula ✣ IHESVS : NAZARENVS : REX IVDE. The pin is of flat oval section, and has a projecting rectangular collar, with a horizontal

medial groove on the four sides, and the ridges on each side of the groove, on the front, decorated with small ring punch-marks.

16. Complete with pin (fig. 3, No. 1), found at Woodhead, Canonbie, with Nos. 26, 27, and 32. It measures 2⅛ inches in diameter, and bears on the face the formula ✠ IHESVS NAZARENVS REX within single marginal lines. The pin is of flattened oval section, and the rectangular collar projects about the same distance on the front and at the sides, which show two horizontal grooves on each. There are traces of niello in the inscription.

Second Type.

Octagonal Brooches, the Sides alternately Flat and Ridged.

17. Complete with pin (fig. 4, No. 1), found at Brechin with Nos. 1, 14, 25, and 35. It measures $2\frac{5}{16}$ inches in diameter, the formulas on the flat panels on both front and back being OX · XI · HESV SNAZA VIXER (Rex Iv[deorvm] reversed) and RMES IAEV MSD IAN. The pin is flat and thick with chamfered corners, and the collar projects prominently on the sides and slightly on the front and back, which bear a horizontal medial groove.

18. Complete with pin (fig. 4, No. 2), found at Ayr with No. 4. It measures $1\frac{7}{16}$ inch in diameter. The panels in front bear the formula X IHE SVS NA X, and those on the back are decorated by longitudinal wavy lines, while the intervening ridges are decorated by oblique lines meeting at the crest, the spaces between them being occupied by small punched circles. The inscription and engraved lines are filled with niello. The pin is of oval section, with a projecting rectangular collar bearing a horizontal medial groove on front and back, both sides of the groove having short engraved oblique lines.

19. Complete, but pin wanting (fig. 4, No. 3), locality unknown. It measures 1¼ inch in diameter. On the panels in front is a blundered inscription (as in the illustration), while those on the back bear three quatrefoils each.

20. Complete with pin (fig. 4, No. 4), found in Dunfermline Abbey. It measures 1¼ inch in diameter. On the panels of the face is the formula IH ESVS NAZ AR E, and on those on the back, in continuation of the same, NVSR EX IV DEO RVM. The pin, of flattened oval section, has a heavy projecting rectangular collar, with a horizontal medial groove on front and back.

21. Complete with pin (fig. 4, No. 5), found at Branxholm. It is only ¾ inch in diameter externally. The formula inscribed on the four panels on both sides is indistinct, but consists of two letters on each

panel. On one side is I HE SV SN, and on the other the continuation of the formula AZ AR EN VS. The ridged sections between the panels have their sloping sides decorated alternately with oblique lines meeting at the crest, and small circles formed by a ring punch. The pin, of flattened oval section, has a rectangular collar projecting on all sides.

22. Complete, but pin wanting (fig. 4, No. 6), locality unknown. It measures $1\frac{5}{8}$ inch in diameter, and shows engraved forms like the letters D and C, as well as curvilinear designs on the flat panels and oblique lines meeting at the crest on the intervening ridged sections.

23. Exhibited to the Society in 1852 by Sir W. C. Trevelyan, Bart., found at Eilean Donan Castle, Inverness-shire.[1] The only details recorded are that it was of silver and of octagonal shape, and bore the inscription + IESVS NAZAR.

24. In the collection of Mr C. E. Whitelaw. Complete with pin, found in forced soil near the Old Church Tower, in Dundee. On the panels in front is the formula ✣ IHES VSNA ZARE ✣, and on the back its continuation NVS RES IXNI EN +. It measures $1\frac{1}{2}$ inch in diameter. The pin is flat, and the collar projects on front and both sides, the front having a medial horizontal groove.

Third Type.

(a) *Wire Ring Brooch with Rosettes and Knops on Ring.*

25. The ring is complete, but of the four rosettes and four knops which were originally attached to it only two complete knops and half of another remain; found at Brechin with Nos. 1, 14, 17, and 35. The ring measures $2\frac{1}{4}$ inches in diameter. The pin is of circular section and wants the collar, which obviously has been detached.

26. Complete, except that the pin wants the point, and the hinge loop has been opened out (fig. 5, No. 1); found at Woodhead, Canonbie, with Nos. 16, 27, and 32. It has six rosettes alternating with a similar number of knops on the ring, the knops covered with small ring punch-marks. The diameter over the rosettes is $3\frac{1}{8}$ inches and over the ring $2\frac{11}{16}$ inches. The pin, which is of square section with rounded corners, has a projecting circular collar decorated on the front with short punched lines; the pin is hinged in the centre of one rosette, the two longer petals having been removed to make room for it, and the point rests in the opposite rosette, which also is without the two longest petals.

27. Half of a brooch similar to the last, but originally provided with

[1] *Proceedings*, vol. i. p. 26.

four instead of six rosettes and knops, two rosettes and one knop remaining; found at Woodhead, Canonbie, with Nos. 16, 26, and 32. The diameter over the rosettes when complete was $2\frac{7}{8}$ inches and over the ring $2\frac{1}{4}$ inches. The knops are ornamented with short punched lines.

28. Complete with pin (fig. 5, No. 2), found at Langhope with No. 33. There are four rosettes and four knops, the rosettes having three small ring punch-marks in the centre, and the knops being covered with similar marks. It measures $2\frac{13}{16}$ inches in diameter over the rosettes and $2\frac{3}{8}$ inches over the ring. The pin is of almost circular section and has a heavy collar, but the latter is hidden by one of the rosettes, which is attached to the head of the pin instead of the ring. The rosettes and knops show traces of gilding.

29. Complete with pin, found at Middlebie with Nos. 15 and 40. It has four rosettes and four knops, the latter decorated with small ring punch-marks and showing traces of gilding. Over the rosettes it measures $1\frac{7}{8}$ inch in diameter, the ring being $1\frac{11}{32}$ inch. The pin is of circular section, and the projecting collar is round and decorated with small ring punch-marks. Like the last brooch, one of the rosettes is attached to the front of the head of the pin.

30. Complete with pin, found near Norham Castle, Northumberland. It has six rosettes, with a quatrefoil in the centre of each and six alternate knops, the latter being decorated by small ring punch-marks. The rosettes and knops have been gilded. Over the rosettes it measures $2\frac{31}{32}$ inches in diameter and over the ring $2\frac{1}{2}$ inches. The pin is of circular section and the collar round, the latter having two horizontal rows of small round pellets made by a ring punch, the rows separated by a deep groove; in the middle of the front of the pin is a small quatrefoil. The hinge of the pin works in the centre of one of the knops on the ring, and the point rests in a groove on the opposite one.

31. In the collection of C. E. Whitelaw. Complete, but original pin replaced by one of later date, bought in Aberdeen. It has four rosettes and four alternate knops, the latter bearing small ring punch-marks. The hinge of the pin is in the centre of a rosette. It measures $1\frac{13}{16}$ inch in diameter across the rosettes.

(b) *Wire Ring Brooch with Lozenge-shaped Plates attached to front of Ring.*

32. Half of brooch with pin (fig. 5, No. 4), and six lozenges when complete but only three remaining, found at Woodhead, Canonbie, with Nos. 16, 26, and 27, the lozenges bearing an engraved lattice design. The extreme diameter over the lozenges was originally $2\frac{1}{2}$ inches and over

the ring 2 inches. The pin, which wants the point, is of flattened oval section, and the collar, which is round, is decorated with small ring punch-marks.

33. Complete with pin (fig. 5, No. 3), found at Langhope with No. 28. It has six lozenges decorated with four long and four intermediate short lines radiating from the centre, the lozenges bearing traces of gilding. The pin, of oval section, has a projecting oval collar ornamented with double or triple milled horizontal ridges. Half of one of the lozenges is broken off.

(c) *Wire Ring Brooch with Rounded Plates attached to front of Ring.*

34. Complete with pin, no locality. On the ring, which is transversely corrugated, are six flat plates, two round and four lozenge-shaped, with the edges scalloped, the lozenge-shaped plates arranged in twos, one pair at the hinge and the other pair opposite; one round plate is fixed on each side. The plates are decorated with small ring punch-marks. The extreme diameter is $1\frac{3}{32}$ inch over the plates and $\frac{31}{32}$ inch over the ring. The pin is flat and has no collar. The front of the brooch is gilded.

FOURTH TYPE.

(a) *Wire Ring Brooch usually Nielloed.*

35. Less than half with pin, found at Brechin with Nos. 1, 14, 17, and 25. When complete it measured $1\frac{3}{8}$ inch in diameter. On the front of the ring are transverse and oblique grooves, doubtless once inlaid with niello. The pin is of oval section and has a prominent oval collar.

36. Complete with pin (fig. 1, No. 2), found at Dumfries with Nos. 37 and 38. The ring is transversely corrugated on the front, and, like the pin, has been nielloed. It measures $1\frac{5}{16}$ inch in diameter.

37 and 38. Fragments of two brooches (fig. 1, Nos. 3 and 4), found at Dumfries with No. 36, which they resemble both in character and ornamentation. Original diameters of the brooches, $1\frac{1}{4}$ inch and $1\frac{1}{2}$ inch.

39. Complete with pin, formed of very thick wire, found at Hexham, Northumberland. It measures $1\frac{5}{8}$ inch in diameter. Four short sections of the front of the ring are decorated with transverse and oblique grooves originally filled with niello, alternating with groups of small rounded projections formed by a ring punch. The pin is of circular section, and has a very prominent round flat collar encircled by two mouldings, which are milled and separated by a deep groove.

(b) *Wire Ring Brooch with half of Ring twisted.*

40. Complete with pin (fig. 5, No. 5), found at Middlebie with Nos. 15 and 29. It measures 2 inches in diameter. The ring is square in section and is decorated on each of the four sides with a narrow longitudinal zigzag formed by the rocking motion of a small chisel-ended tool. One half of the ring is twisted so as to give this portion the appearance of being spirally fluted. The pin is of rounded section with a round projecting collar.

By tabulating the various finds, the distribution of the brooches and the association of varieties will be more easily recognised (see p. 176).

In the Brechin hoard alone not only do we find the whole four types represented and their contemporaneity established, but their period is indicated by the coins, and in the Woodhead find a sub-variety [third (*b*)], which is not found among the examples for Brechin, is linked up with the two other types which are common to the two hoards. The associated coins also belong to the same period. There is only one sub-variety of brooch left [third (*c*)] which has not been found in association with other types or with coins, and it (No. 34) is represented by only one example. But although this object is of lighter make and its pin has not the characteristic projecting collar of the others, it displays in the transverse corrugations on the front of the ring and in the small ring punch-marks on the plates, decorative motifs appearing on some of the other varieties which seem to justify its attribution to a period not much removed from that to which the other brooches belong. The latest coins found in the various hoards were of the reign of Robert III., who died in 1390, only one brooch, and that of the octagonal variety, being associated with them. But as all the coins of the other hoards belong to an earlier date, it is clear that the four different types and their sub-types were very fashionable in the end of the thirteenth and beginning of the fourteenth century.

The small ring punch which was used in the decoration of so many of the brooches was evidently a favourite tool of the silversmiths of the period, as it has been employed in decorating examples in each of the four classes. The use of this tool is displayed most frequently on the knops which encircle the rings of the third class of brooches, and it is seen on the ridged sides of two of the brooches of the second. The rings of the first and fourth types do not offer a very suitable surface for the application of this tool, but it has been used on the collar of the pin of one example in the first group and on the front of the ring of one in the fourth class.

For the further beautifying of these brooches, gilding and niello were

Locality.	First Type.		Second Type.	Third Type.			Fourth Type.		Coins.
	(a).	(b).		(a).	(b).	(c).	(a).	(b).	
Eilean Donan, Loch Duich, Inverness-shire.	...	...	1	...	...	...	...	...	
Culbin Sands, Morayshire.	1	...	...	...	...	...	...	...	
Forres, Morayshire .	1	...	...	...	...	...	...	...	
Aberdeen . . .	...	...	...	1	...	...	...	...	
Brechin, Forfarshire .	1	1	1	1	...	...	1	...	Edwardian.
Dundee, ,, .	...	...	1	...	...	...	...	...	
Dunfermline, Fife .	...	...	1	...	...	...	...	...	
Islay, Argyll . .	1	...	...	...	...	...	...	...	
Kames Castle, Bute .	1	...	...	...	...	...	..	...	
Glasgow . .	1	...	...	...	...	...	...	...	
Lanarkshire . .	1	...	...	...	...	...	...	...	
Ayr	1	...	1	...	...	...	...	...	Alexander III., John Baliol, and the Edwards.
Athelstaneford, East Lothian.	1	...	...	..	...	...	..	...	
Dumfries . . .	...	...	...	...	...	...	3	...	Alexander III., John Baliol, Edward I.
Langhope, Dumfriesshire.	...	...	...	1	1	...	...	...	Edward I., II., and III.
Woodhead, Canonbie, Dumfriesshire.	...	1	...	2	1	...	...	...	Alexander III., John Baliol, Edward I. and II.
Middlebie, Dumfriesshire.	...	1	...	1	...	...	...	1	
Branxholm, Roxburghshire.	..	...	1	...	...	...	...	...	David II. and Robert II.
Unknown, probably Scottish.	4	...	2	...	...	1	...	...	
Northumberland, England.	...	...	...	1	...	...	1	...	
	13	3	8	7	2	1	5	1	

favoured. The latter style of decoration continued in vogue in Scotland long after this, as nielloing appears on many Highland brooches of silver made in the third quarter of the eighteenth century.

A considerable number of the brooches retain their original pins, which are provided with a pronounced projecting collar or flange just below the loop of the hinge. This peculiarity in each of the four varieties seems to be characteristic of the period. When it went out of fashion I have been unable to ascertain. The pin is of heavy make, and the collar, which is usually decorated on the periphery, generally conforms in shape to that of the section of pin, whether the latter be round, oval, rectangular, or with chamfered corners. Thus, a pin of round section has a round collar, and one that is flat usually projects slightly in front and rather more at the sides. Even in two of the brooches which have an applied rosette in front of the head of the pin, the collar is retained in spite of its being entirely hidden by the rosette. As we have seen, the collar also occurs on the top arm of the small silver cross from Dumfries.

In the brooches which have a flat ring (the first and second types), the ring is reduced in width by a square notch on the outer and inner edges to receive the loop of the hinge of the pin, but in those which have a wire ring (the third and fourth types) there is no diminution in the thickness of the wire.

It will be noted from the table on p. 176 that the distribution of the brooches is very general throughout Scotland, thirteen of the localised examples coming from districts west and north of the Forth and Clyde, and eighteen from the southern counties, which shows that they must have been very common ornaments. Though a considerable proportion of them were found with English coins, it need not be supposed that they were introduced by the soldiery of the first two Edwards, as it is well known that there were far more English than Scottish coins in circulation in the country during the first half of the fourteenth century, and even later. Besides, had they been typically English brooches, it is to be expected that they would be well represented in the London Museums, but I know of only one example—it is of the first class—in the British Museum, and there is none in the Guildhall Museum, the London Museum, or the Victoria and Albert Museum. The only other examples which have come under my notice are one of the first class with a "Jesus of Nazareth" inscription, which was found in Northumberland, and two of the third class, with rosettes on the ring, one of which is in Devizes Museum[1] and the other which was found at Carisbrooke Castle, Isle of Wight.[2] Although there are probably others recorded or preserved

[1] *Devizes Museum Catalogue*, part ii. p. 122, Pl. lviii., No. 2.
[2] *Arch. Journal*, vol. ix. p. 110.

elsewhere, it may be claimed that those interesting and distinctive ornaments found in Scotland, of which we have such a good selection, were probably made here.

As already mentioned, a pin, a sheath-like object, and a finger-ring were found in the hoard from Langhope, Roxburghshire. The pin is of unusual shape and wants the point. Its stem, which is of stout make, is hexagonal in section, and the faceted head is in the form of two low hexagonal pyramids placed base to base. It now measures $2\frac{1}{8}$ inches in length. The sheath-like object is made of thin sheet metal, but it is crushed and imperfect at both ends; of oval section and narrowing to a rounded end, it measures $\frac{7}{16}$ inch by $\frac{1}{4}$ inch at the orifice, and $1\frac{1}{16}$ inch in length. The finger-ring, which is $\frac{7}{8}\frac{7}{2}$ inch in diameter, has a flat hoop $\frac{3}{16}$ inch broad, with the inscription ✠ IESV NAZAR engraved on the exterior. There are three other rings of this type in the Museum. Two, without localities, have the inscriptions ⋈ IHESVS NAZA and ⋈ IESVS NAZAREN, and the third, from Arbroath, what seems to be the same formula very much bungled and contracted, some of the letters being inverted or reversed. One found near St Andrews, bearing the inscription IHESVS NAZAR, is preserved in the museum at the cathedral there.

The two finger-rings found with the hoard at Woodhead, Canonbie, are of quite a different type from those described; they are of gold and are set with stones. The first has a high oval bezel containing a setting of a light blue stone or glass of irregular oval shape, perforated longitudinally like a bead; this is surrounded by six projecting collets originally set with small stones, of which only two remain, these being green in colour. The second finger-ring has an oval mount set with an irregularly shaped red stone.

Brooches of Brass or Bronze.

In addition to the brooches which we have been considering, there are in the Museum a number made of brass or bronze, the period of which is not so easily fixed as that of the silver brooches. From the fourteenth century down to the latter part of the eighteenth century, the flat ring brooch was a popular ornament in many parts of Scotland, the ring becoming broader and larger until in the seventeenth and eighteenth centuries we get the large, so-called shoulder brooches decorated with panels bearing interlaced designs, foliaceous ornament, and grotesque animals, and when made of silver often inlaid with niello. So far, with a few exceptions, we have been unable to recognise those which were produced in the fifteenth and sixteenth centuries.

Although the brass brooches differ slightly from those of silver, from their general appearance they can be assigned to the four types into which we have divided the latter. Of the first type there are five specimens, of the second type five, of the third type one, and of the fourth type two.

FIRST TYPE.

Flat Ring Brooches.

1. Ring broken and pin missing, found with No. 12 in the broch of Yarhouse, Caithness. It measures 2⅛ inches in diameter. On the front of the ring is a contracted and bungled variety of the IESVS NAZARENVS inscription.

2. Complete with pin (fig. 3, No. 10), found in South Uist. It measures only ⅝ inch in diameter. On the front and back of the ring are five crosses like some of those at the beginning and end of the inscriptions on the silver brooches. The pin has a projecting circular collar under the hinge.

3. Complete with pin (fig. 6, No. 1), from the Culbin Sands, Morayshire. It measures 2$\frac{1}{16}$ inches in diameter. On the front of the ring is a running foliaceous scroll. The pin, which is made of thin sheet metal bent round the ring to form the hinge, has two projections on each side under the hinge decorated with two incised transverse lines on the front.

4. Complete with pin (fig. 6, No. 2), from the Culbin Sands. It measures 1½ inch in diameter. Attached to and covering the front of the ring are three concentric wires, the central one plain and the other two twisted. The pin has a projecting circular collar.

5. Complete with pin (fig. 6, No. 3), from the Culbin Sands. It measures 1¼ inch in diameter. On the front of the ring, which narrows towards the part to which the pin is hinged, are incised radiating lines closely set together. The pin has a projecting circular collar.

SECOND TYPE.

Polygonal (mostly Octagonal) Brooches, the sides alternately flat and ridged.

6. Octagonal, complete but pin wanting, found near Kilchrennan, Argyll. It measures 2¼ inches in diameter. There are foliaceous designs on the flat panels on both front and back, except on one panel in front which bears the letters MGS in Lombardic characters.

7. Octagonal, complete with pin, from the broch of Torwoodlee,

Selkirkshire. It measures 2 inches in diameter. On the flat panels on both front and back are foliaceous designs and key patterns. The pin, formed of thin sheet metal hammered in at the sides, is widest just under the hinge, which is formed by bending the top of the pin round the ring.

8. Octagonal, complete with pin, locality unknown. It measures

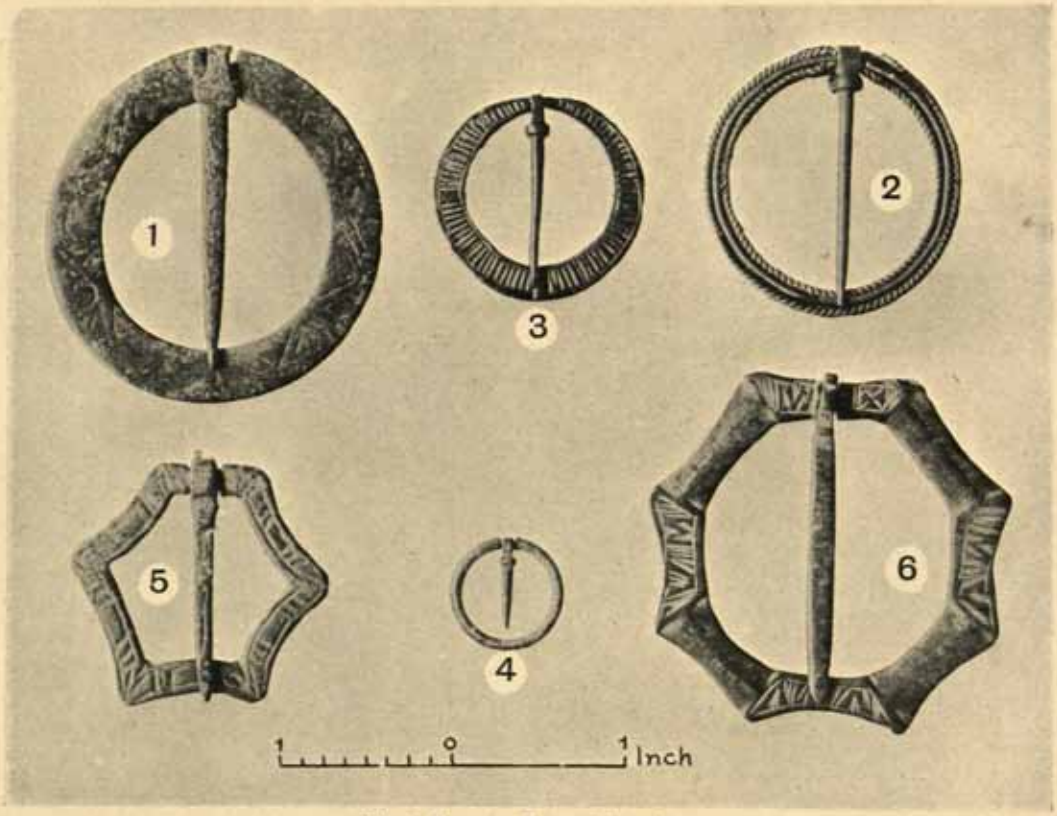

Fig. 6. Brass or Bronze Brooches.

$1\frac{1}{16}$ inch in diameter. It is much corroded, and no ornamentation can be distinguished on the ring. The hinge of the pin, which has no collar, is formed by bending the head round the ring.

9. Hexagonal, complete with pin, from Colonsay, Argyll. It measures $2\frac{1}{8}$ inches in diameter. The brooch is much corroded, but shows foliaceous designs on the flat panels. The pin has no collar, and is bent round the ring at the hinge.

10. More curvilinear than polygonal, and wanting the pin, from

Muckairn, Argyll. Of irregular form, its diameter varies from 2¾ inches to 3 inches. On one side are five flat and four alternate ridged sections, the flat ones bearing incised radiating lines; on the other side are four flat and five alternate ridged sections with a zigzag line on the flat sections.

THIRD TYPE.

Wire Ring Brooch with encircling Knops but no Rosettes or Plates attached.

11. Complete, but crushed and wanting the pin, from the Culbin Sands. Originally it measured 2 inches in diameter. Three of the four knops, which had been formed by folding a thin strip of metal round the ring and which had been placed equi-distant from each other, remain in position.

FOURTH TYPE.

Wire Ring Brooches, either plain or partly twisted.

12. Complete, but pin wanting, found with No. 1 in the broch of Yarhouse.[1] It measures 2$\frac{7}{16}$ inches in diameter. One half of the ring is plain, the other half twisted.

13. Complete with pin (fig. 6, No. 4), from the Culbin Sands. It measures ⅝ inch in diameter. The ring is plain, and the pin has a projecting circular collar.

These brooches generally show a close resemblance to those of silver, but as a rule they are more rudely fashioned, and some of them exhibit a different method of manufacture. In the flat ring and polygonal brooches of silver the ring is continuous, but in those of brass there is a break, with the ends overlapping and kept in position by the loop of the pin, which fits into square notches cut in the outside and inside of the ring. This system of overlapping the ends of the ring is met with in many of the large brooches of brass of later times, but occasionally the joint is also brazed. With the exception of No. 40 from Middlebie, all the silver wire brooches have a continuous ring, but the two of brass have a break in it.

When we come to consider the probable dates of these ornaments, it is evident that No. 1 from the broch of Yarhouse and No. 2 from South Uist are clearly fourteenth-century types, as the first bears the IESVS

[1] The discovery of these brooches in a broch does not imply that they belong to the time of the early occupation of the building; it just shows that the structure had been utilised subsequently for shelter or occasional residence. The late occupation of brochs was clearly demonstrated by the recent excavation of the broch of Dun Beag, in Skye (*Proceedings*, vol. lv. pp. 119–27).

NAZARENVS formula contracted and blundered like most of the silver brooches of this period, and the second is decorated with crosses similar in character to some of those engraved on the silver examples, also its pin has the typical collar of the time. The brooch, No. 3, from the Culbin Sands may also belong to this period, though it may be a little later than the first two. The projections on either side of its pin are derived from the true collared variety, and the absence of a thickening at the front and back is accounted for by the thinness of the metal of which it is formed. The decoration of the ring, a running scroll very rudely engraved, does not assist us in dating the object. This motif, which is present in the ornamentation of Scottish metal work of the fourteenth and earlier centuries, as well as on some of the West Highland sculptured stones of the fifteenth century, is not seen on any of the silver brooches. While the two other examples from the Culbin Sands, Nos. 4 and 5, have collars on their pins, the ornamentation on their rings is quite different from that appearing on any of the other brooches which we have been considering. No. 4, with concentric wires attached to its front, is the only one of its kind which I have seen; but No. 5, which has closely placed radial lines incised on the face, is not so uncommon, as there are five more from the Culbin Sands in the Museum. These, unfortunately, have either lost their pins or have pins without collars. The ornamentation on Nos. 4 and 5 is not seen on any of the silver brooches, and thus we have to rely on the form of their pins for a clue as to their period. As the pins have collars, it is improbable that they are much later than the silver brooches, and although we do not know when this peculiar feature of the pin was discarded, it may be suggested that these two brooches belong to the fifteenth century, especially as the ornamentation on their rings does not occur on what we consider the earlier brooches. Some brooches which have deep radial grooves as well as incised lines on the front of the ring, and others which have radial grooves alone, are probably a later development of the last-mentioned variety.

When we examine the brass polygonal brooches, it will be noticed that they are made of thinner metal than the silver examples, and consequently the ridged sections are not so prominent. Three of the brooches have pins, but these are made of thin sheet metal and have neither a collar nor side projections. As for their ornamentation, three have foliaceous or curvilinear designs, the latter slightly resembling those on some of the silver brooches. The talismanic formulas do not occur on the brass examples of this class, but the three letters engraved on No. 6 seem to betoken a fourteenth-century date. The last brooch of this group, No. 10, is abnormal, inasmuch as it exhibits the flat and ridged sections of the angular brooches on a ring which is not quite

circular. The decoration of the front of the ring, however, consists of radial lines similar to those on No. 5, while that on the back, a single zigzag line on the flat panels, has not been met with during our inquiry. Probably this brooch may belong to the fifteenth century.

A brooch found at Urquhart Castle, Inverness-shire, and illustrated in fig. 6, No. 5, is of hexagonal form with concave sides, the front being decorated with radial or oblique incised lines. Its date may be fifteenth century.

The single example of the third type differs from those of silver in having only knops and no rosettes attached to the ring, the knops being plain and devoid of the small circular punch-marks of the others.

Of the simple wire brooch without attached ornaments, No. 12 has the typical collar on the pin, and No. 13 is an exact parallel to the silver example No. 40, one half of the ring being plain and the other half twisted. These seem to be fourteenth-century ornaments.

Reviewing the whole of the evidence, it is probable that the majority of the brass brooches belong to the fourteenth century and a few to the fifteenth.

Some of the most prominent features of these ornaments both in silver and brass continued to be reproduced in a more or less developed form in the Scottish brooches of the sixteenth, seventeenth, and eighteenth centuries. From the narrow flat ring brooch came the large Highland brooch with its broad flat ring. The overlapped joint persisted, as also the practice of ornamenting them with niello and foliaceous designs. In the case of the octagonal brooch the ring became broader, with the inner margin assuming a circular form and the outer margin showing concave sides. An example showing an early stage in this development (fig. 6, No. 6) was found at Urquhart Castle. The sides are alternately flat and ridged, but their outer edges are concave. The flat panels on the front bear the letters MV or VM. The talismanic formulas were discontinued, but were followed by a debased design resembling the letter N in Gothic form, repeated several times and placed closely together—a motive suggested by the earlier lettering. Three circular brooches of brass and one of silver bearing this motive, alternating with circular panels containing interlaced patterns, preserved in the Museum, seem to belong to the late sixteenth or early seventeenth century.

Returning to the Dumfries flat ring brooch with slightly projecting collets set with gems, which is of foreign origin, there is a group of large elaborate Scottish brooches which are directly descended from examples of its class. The Glenlyon brooch has a broad flat ring with long jewelled collets, projecting 1 inch from the ring, with the centre open but for a flat cross bar on which to rest the points of the pins, and the

formula IASPAR MELCHIOR BALTAZAR CONSVMATVM on the back. The long jewelled collets are seen in the brooch of Lorne and the Lossit and Lochbuy brooches, but the centre is closed with a large crystal. In the Ballochyle brooch we see the descendant of the octagonal brooch, only the outer margin of the sides are concave and its centre contains a large crystal.

There are also two other Scottish brooches, one of them combining

Fig. 7. Brooch from Culgower.

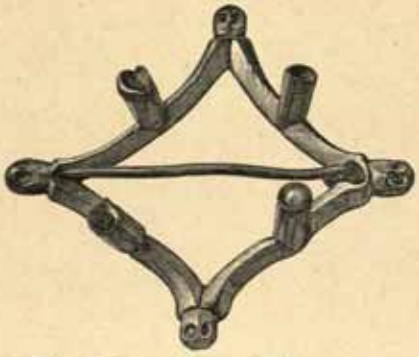

Fig. 8. Brooch from Scribercross.

the polygonal form with jewelled collets, which were exhibited to the Society forty-two years ago.[1] Both are made of brass or bronze. The first (fig. 7), found at Culgower, Sutherland, measuring $1\frac{3}{8}$ inch in diameter, was of circular form with alternate small and large projecting collets, some of which retained their settings of coloured glass or paste, and the second (fig. 8), found at Scribercross, Rogart, Sutherland, measuring 2 inches in diameter, was lozenge-shaped with incurved sides, with a projecting collet in the centre of each side, which had once contained a setting.

[1] *Proceedings*, vol. xvi. p. 402.